

REMARKS

Applicant has now had an opportunity to carefully consider the comments set forth in the Restriction Requirement of July 14, 2004 and made in brief telephone conferences held on or about August 2 and August 6, 2004.

In light of remarks and amendments submitted herewith, withdrawal of the Restriction Requirement is respectfully requested.

The Restriction Requirement

The Restriction Requirement mailed July 14, 2004 required election between Groups I, II and III. The Restriction Requirement asserted that:

Group I (claims 1-14) is drawn to mapping a color specification to colorant amounts based on designated portions of a projected region of color space, and that Group I is classified in class 358, subclass 1.9 (facsimile and static representation processing/static presentation processing/attribute control);

Group II (claims 15-21) is drawn to transforming a classic colorant description into a redundant colorant description, and that the claims of Group II are classified in class 358, subclass 520 (natural color facsimile/color correction/hue, saturation, luminance); and

Group III (claims 22-28) is drawn to an image processing system to map a color specification to output colorant amounts by a first colorant splitter, and that the claims of Group III are classified in class 358, subclass 515 (natural color facsimile/color separation).

Telephone Interview Summaries

On or about August 2, 2004, a representative of the Applicant, Mr. Thomas Tillander, attempted to contact the Examiner, Mr. Michael L. Burleson, in order to obtain clarification with regard to the Restriction Requirement mailed July 14, 2004. Mr. Burleson returned Mr. Tillander's telephone call later that morning. During that conversation, the Examiner asserted that restriction was required because the claims of Group II are drawn to transforming while the claims of Group I are drawn to mapping. Mr. Tillander pointed out that the claims of Group III are drawn to an image processing system operative to map, and suggested

that it might be proper to consider the claims of Group I and Group III to be a single group. The Examiner agreed that election between the claims of Group II and the combination of Groups I and III would be appropriate. Mr. Tillander asked if amending claim 15 (of Group II) to recite -- mapping a classic colorant description -- instead of -- transforming a classic colorant description -- would provide grounds for withdrawing the restriction requirement. The Examiner agreed that it would. The conversation ended soon thereafter.

However, later that morning the Examiner telephoned Mr. Tillander and said he would need more time to consider the suggestion regarding replacing -- transforming -- with "mapping". The Examiner said he would review the case and confer with Mr. Tillander again by the following Friday.

On Friday, August 6, 2004, the Examiner telephoned Mr. Tillander. Claims 1 and 15 were discussed. Mr. Tillander suggested that the meanings of the words -- mapping -- and -- transforming -- were similar and asked the Examiner for the definitions he was applying to the words and an explanation as to why any difference between the meanings of the words would warrant a restriction requirement. The Examiner read a definition of the word -- mapping -- that involved producing new values, but was unable to cite a definition for the word -- transforming --. Mr. Tillander again suggested replacing the word -- transforming -- in claim 15 with the word -- mapping --. The Examiner agreed to consider such an amendment, as well as remarks traversing the Restriction Requirement.

The Restriction Requirement is Traversed

Claim 1 has been amended to recite a method of mapping a color specification to colorant amounts when a projected region of color space is to be produced by a selection of colorants from a set of colorants including a first colorant, a second colorant and a third colorant, the second colorant being of similar hue with respect to the first colorant.

The present application explains that colorants of similar hue are, to some degree, redundant, because gamuts of colors that can be produced with colorants of similar hue overlap. Therefore, at least in the present application, colorants of similar hue are called redundant colorants (page 2, lines 19-23).

Claim 2 has been amended to recite the method of mapping a color specification of claim 1 wherein designating the first portion and designating the

second portion comprise designating the first portion of the region to be produced by the first colorant and a neutral colorant and designating the second portion of the region to be produced by the first colorant and the second colorant. Claim 1 recites that the second colorant is of a similar hue with respect to the first colorant. Therefore, claim 2 recites designating the second portion of the region to be produced by a redundant colorant color description.

Claim 15 has been amended to recite a method of mapping a classic color description to a redundant color description. The preamble of claim 1 recites a method of mapping a color specification to colorant amounts. The body of claim 15 recites determining a first amount of a primary colorant and determining a first amount of a secondary colorant, said secondary colorant having substantially the same hue as the primary colorant (i.e., a redundant color description).

Therefore, while the scope of claims 1 and 2 may be different than the scope of claim 15, it is respectfully submitted that claim 15 recites subject matter that is similar to that recited in at least some of the claims of Group I.

For at least the foregoing reasons, it is respectfully submitted that the claims of Group II do not recite subject matter that is distinct from the subject matter of Groups I and III. Therefore, it is respectfully submitted that the Restriction Requirement should be withdrawn.

The Amendments are Supported

It is respectfully submitted that the amendments to claims 1-9, 13 and 14 are directed to matters of form, correct antecedents or are simply clarifying in nature and do not represent new matter.

It is respectfully submitted that some of the amendments to claim 15 are directed to matters of form. It is further submitted that the amendment replacing the word -- transforming -- with the word "mapping" is supported throughout the specification.

For example, FIGURE 18 is a flow diagram of an overall method for processing a classic color specification to generate a color specification using redundant colorants (page 8, lines 24-26).

On page 12, lines 7-12, it is explained that the range of colorant amounts in the classic color specification C₀,K₀ of FIGURE 2 is overlaid with a first **714** and

a second **718** section designation in FIGURE 7. It is respectfully submitted that this overlay represents a mapping.

Additionally, on page 31 lines 21-33, it is explained that to handle the case where it is best to map the fully saturated pure color specification ($C_0 = K_0 = 0$) to a darker first colorant C, a method **1110**, extending the method **610** of FIGURE 6, begins with a maximal point placement that is similar to the maximal point placement **614**. A transformation **1114** follows. The remainder of the method **1110** includes a first portion designation **1120**, a second portion designation **1126** and a color mapping **1138**. Those procedures (**1120**, **1126**, **1132** and **1138** of the extended method **1110**) are similar to similarly named procedures of method **610**. In practice, they are repeated for each colorant in the input or classic color specification (C_0, M_0, Y_0, K_0). Referring to FIGURE 18, and in summary, the specification explains that processing begins by obtaining a classic color specification such as, for example, a pixel C_0, M_0, Y_0, K_0 . A first colorant value is selected for mapping from the classic pixel. For example, a C_0 value is selected for mapping.

Furthermore, on page 32, lines 1-10, the specification continues to explain that a first amount of a primary colorant is determined **1826**. Similarly, a first secondary colorant amount is determined **1838**. For example, an embodiment of the method **610** describes in reference to FIGURE 7 – FIGURE 9 is used to map a C_0 value to amounts of colorants $C_a C'_a$. Those amounts are accumulated as a first set of redundant colorants.

It is respectfully submitted that the amendments to claims 16-21 correct antecedents associated with the amendment to claim 15 and address matters of form.

Telephone Interview

In the interest of advancing this application to issue, the Applicant respectfully requests that the Examiner telephone the undersigned to discuss the foregoing or any suggestions that the Examiner may have to place the case in condition for allowance.

CONCLUSION

As agreed to by the Examiner, provisional election has been made to the combination of Groups I and III (including claims 1-14 and 22-28). Claims 15-21 have been labeled Withdrawn or Withdrawn and Currently Amended. However, for the reasons detailed above, it is respectfully submitted that the Restriction Requirement should be withdrawn and that claims 15-21 should be examined.

Respectfully submitted,

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Date



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